

CLAIM

1. A process for producing kraft pulp, which comprises: (A) a cooking step of treating raw chips with a cooking liquor containing sodium hydroxide and sodium sulfide as main components to convert the chips into pulp; (B) a pulp washing step of washing the resultant pulp, and separating and recovering a black solution containing sodium carbonate and sodium sulfate, which are turned from the cooking liquor, therefrom; (C) a pulp bleaching step of treating the pulp with a bleaching agent in the presence of alkali; (D) a black solution concentrating step of concentrating the black solution separated and recovered in the pulp washing step (B); (E) a black solution combustion step of burning the concentrated black solution to reduce the sodium sulfate into sodium sulfide and further recovering ashes containing sodium sulfate and sodium carbonate from a combustion exhaust gas generated therein by a dust collector; and (F) a causitification step of treating a green solution as an aqueous solution of a smelting product recovered from the combustion step with calcium oxide to reduce sodium carbonate contained in the green solution to sodium hydroxide, thereby obtaining a white solution, said white solution recovered in the causitification step (F) being recycled to the cooking

step (A);

said process further comprising:

(G) a potassium ion removal step of flowing an aqueous solution containing the ashes captured and recovered from the combustion exhaust gas generated in the black solution combustion step (E) by the dust collector through a packed bed filled with a Na-type cation exchange resin to adsorb and remove potassium ions contained in the aqueous solution; and

(H) a regeneration step of treating the cation exchange resin used in the potassium ion removal step (G) with an aqueous sodium hydroxide solution to regenerate the cation exchange resin,

wherein a fraction recovered from the potassium ion removal step (G), which contains a large amount of sodium sulfate and sodium carbonate, is recycled to the black solution concentrating step (D), and a sodium hydroxide effluent recovered from the regeneration step (H) is recycled to the bleaching step (C).

According to the process described above, there can be industrially effectively produced kraft pulp which is capable of preventing, in particular, accumulation of potassium impurities; and utilizing chemicals used in the process.